

REMARKS

Claims 1-13 are pending in this application. Claims 8-13 have been added.

Claim 3 has been amended to recite "D-isomer". Support for this amendment can be found on page 6, line 28.

Support for claim 8 can be found in Example 16.

Support for claim 9 can be found in the description at page 15, lines 2-21.

Support for claims 10-11 can be found in the description at page 15, lines 2-21; page 15, line 32 to page 16, line 3; and Examples 1 to 17. Therein is a description wherein the heat stretching temperatures are more than 15°C higher than the cooling temperatures to which the extruded compositions (C) are cooled down (see Tables 2, 3, 4, and 5).

Support for claim 12 can be found in the description at page 16, lines 7-13 and the majority of Examples.

Support for claim 13 can be found in the description at page 18, lines 16-31.

No new matter has been added by way of the above-amendment. The above-amendment does not narrow the scope of the invention and/or has not been made for the sake of patentability.

The following sections correspond with the sections of the outstanding Office Action.

Information Disclosure Statement (IDS)

The Examiner has returned the PTO-1449 Form which was enclosed with the July 21, 2003 IDS and has crossed through the entries for JP 3105020 B2 and JP 3178692 B2. The Examiner indicated that no English abstract was included with the IDS.

In response, Applicants enclose herewith an English language abstract for JP 4335060 which is in the same patent family as JP 3105020 B2 and an English language abstract for JP 7257660 which is in the same patent family as JP 3178692 B2.

The Examiner is respectfully requested to sign the enclosed PTO-1449 form indicating that both JP 4335060 and JP 7257660 were considered. Applicants believe that it is appropriate for the Examiner to consider these documents without requiring Applicants to pay the \$180.00 fee for filing an IDS after a non-final Office Action. However, should the Examiner require payment of the \$180.00 fee, the PTO is authorized to charge payment of the \$180.00 fee to Deposit Account No. 02-2448.

Issues Under 35 U.S.C. § 112, second paragraph

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph for being indefinite. Applicants respectfully traverse the rejection.

Specifically, the Examiner requests clarification as to what is meant by "D-body".

In response, Applicants have amended claim 3 by replacing the term "D-body" with "D-isomer". Support for this amendment can be found on page 6, line 28 of the specification.

In view of the fact that the claims particularly point out and distinctly claim the subject matter which Applicants regard as the invention, withdrawal of the rejection is respectfully requested.

Issues Under 35 U.S.C. § 103

The following rejections are pending:

- (A). Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Topolkaraev et al., (USP 6,660,211) in view of Shibata et al., (Pre-grant Publication Number 2002/0102423A1);
- (B). Claims 1-5 are rejected under 35 U.S.C. 103(a) being unpatentable over Shibata et al. in view of Kuroki et al., (EP 1029890A2); and
- (C). Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. and Kuroki et al. as applied to claims 1-5 above, and further in view of JP 05-162747 (based on its English abstract).

Applicants respectfully traverse the rejections.

Advantages of the Present Invention:

The present invention is drawn to a wrap film comprising a layer of resin composition (C) as at least one surface layer, wherein resin composition (C) comprises an aliphatic polyester resin (A) and

a liquid additive (B), wherein the surface layer has a surface roughness of 0.5 to 4.0 nm, and favorable strength, heat resistance and cling properties. Not only is the inventive wrap film easy to use, but it comprises an aliphatic polyester which is considered biodegradable. It is this combination of properties which makes the inventive wrap film more desirable than the wrap films in the prior art.

We now turn to Rejection (A).

Rejections (A)-(C):

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of obviousness. See MPEP § 2143.03. Applicants respectfully submit that the combination of Shibata et al. with either or Topolkaraev et al. or Kuroki et al. fail to teach or fairly suggest a wrap film comprising an aliphatic polyester resin (A) in a surface layer having a surface roughness of 0.5 to 4.0 nm.

The Examiner relies on the teachings of Shibata et al. for the surface roughness characteristics at paragraph [0126]. However, Applicants note that Shibata et al. teach wrap films having a much rougher surface than the inventive wrap film. Shibata et al. fail to teach how to control the surface roughness to be within 0.5 to 4.0 nm, as presently claimed. The surface roughness of the wrap film of Shibata et al. described in paragraph [0126] is 78 nm. The

inventive wrap film shows almost a 20 fold improvement in smoothness over the wrap films of Shibata et al.

In the present invention, the surface roughness is controlled on a nanoscale, and when combined with the other properties, such as film composition and tensile modulus, provides a wrap film having both excellent clinging and pull-out properties. This combination of properties is realized by controlling various production conditions like the film stretching ratio, heating treatment temperature, and the method for cooling the molten resin (Table 2).

It cannot be said that it would be within the skill of the artisan to modify the various production conditions of Kuroki et al., Topolkaraev et al. and Shibata et al. to obtain a wrap film having the inventive features as asserted by the Examiner. This is especially true with respect to the inventive embodiment wherein there is a rigorous cooling process following each major heating that prevents adverse crystal growth leading to a film surface roughness out of the inventive range.

The present inventors are the first to conceive the significance of the cooling process as an influential factor on crystal growth and surface roughness. This is described on page 15, lines 2-21, page 16, lines 7-13 and page 18, lines 16-31 of the present specification.

The positive effect of the cooling process is also shown by comparing Examples 16 and 17 with Comparative Examples 4 and 5, (see Tables 7 and 8). In Examples 16 and 17, the extruded composition is cooled by a water cooling ring at 20 °C while in the Comparative Examples 4 and 5, the extruded composition is cooled by air cooling at ambient temperatures, (see Tables 5 and 6). The wrap film of Comparative Example 4 could not even be tested due to blocking or tight winding. Also, the wrap film of Comparative Example 5 had almost twice the roughness of the wrap films of inventive Examples 16 and 17.

The Examiner's attention is directed to the new claims 8-13, which further define the film based on its method of production. There is no teaching or suggestion in the cited references of a process comprising such a thorough temperature control during film production as the technical solution to controlling the surface roughness.

Accordingly, the combination of Shibata et al. with either or Topolkaraev et al. or Kuroki et al. fail to teach or fairly suggest a wrap film comprising an aliphatic polyester resin (A) in a surface layer having a surface roughness of 0.5 to 4.0 nm, and as such, withdrawal of Rejections (A)-(C) is respectfully requested.

Further Comments on Rejection (A):

Topolkaraev et al. teach films which would be used for disposable absorbent products, see column 1, lines 15-36.

Shibata et al. teach wrap films for foods. The Examiner notes that on page 9, paragraph [0126] of Shibata et al., this reference teaches that the wrap films have a certain surface roughness.

The Examiner has taken the position that it would be obvious to modify the films of Topolkaraev et al. to include the surface roughness of Shibata et al.

In response, Applicants respectfully submit that the skilled artisan would not be motivated to modify the surface roughness of the film of Topolkaraev et al. as taught by Shibata et al., since the field of invention of Topolkaraev et al. is different than the field of invention of Shibata et al. Specifically, the skilled artisan would not be motivated to modify the liner material of the disposable absorbent products of Topolkaraev et al. to have a low surface roughness, since Topolkaraev et al. is concerned with the ductility and breathability of the article and lowering the surface roughness is not important to the objectives of absorbent articles.

The mere fact it is possible for isolated disclosures to be combined does not render the result of that combination obvious absent a logical reason of record which justifies the combination. *In re Regel et al.* (CCPA 1975) 526 F2d 1399, 188 USPQ 136. To properly combine references to reach a conclusion of obviousness,

there must be some teaching, suggestion of inference in either or both of the references, or knowledge generally available to one of ordinary skill in the art, *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Interfer. 1993), which would have led one to combine the relevant teachings of the two references. *Ashland Oil Inc. v. Delta Resins and Refractories, Inc. et al.* (CAFC 1985) 776 F2d 281, 227 USPQ 657. The combination is improper if one of the references is non-analogous art. *In re Clay* (CAFC 1992), 23 P.Q2d 1058. In view of the fact that the field of invention of Topolkaraev et al. is different than the field of invention of Shibata et al., rejection (A) is untenable.

Further Comments on Rejections (B) and (C):

Applicants respectfully submit that the combination of Shibata et al. and Kuroki et al. do not teach or fairly suggest the inventive wrap film formed of a polyester resin (A) which is used as a surface layer and has a roughness of 0.5 to 4.0 nm.

Shibata et al. teach the use of a thermoplastic resin composition comprising polypropylene and at least one resin selected from ethylene-propylene rubber and ethylene- α -olefin and copolymer. In paragraph [0126], Shibata et al. teach that a center-line surface roughness Ra should be 0.08 microns or smaller, and that a "multi-layer film whose surface roughness exceeds [this]... may result in reduction of contact or cling as a wrap

film." Also, in example 21, Shibata et al. measure the surface roughness of an exemplified wrap film.

Shibata et al. fail to teach or suggest the use of a **polyester resin** in the formation of the composition of the surface layer of the wrap film.

In order to cure this deficiency, the Examiner cites Kuroki et al. However, Kuroki et al. only hint that their polyester resin composition can be used in the formation of food wrapping film, see paragraph [0043]. Kuroki et al. do not teach or suggest that the surface roughness can or should be modified.

Accordingly, the skilled artisan must look to Shibata et al. for teaching how to modify the surface roughness of the film. However, in Shibata et al., the surface roughness is taught to be modifiable by altering the types of secondary resins to be added to the polypropylene base resin. The greater the compatibility of the two resins, the less the surface roughness. It is important for Shibata et al. to choose secondary resins that reduce the surface roughness, see paragraph [0131].

Since neither Kuroki et al. nor Shibata et al. teach how to modify the surface roughness of the **polyester** composition of Kuroki et al. to obtain the inventive surface roughness, a *prima facie* case of obviousness cannot be said to exist.

It was the present inventors who were the first to conceive that the surface roughness of the polyester composition can be

modified by varying the heat treatment step. See the last paragraph on page 17 of the specification. Accordingly, it appears that the heat treatment step for modifying the surface roughness of the polyester composition is an inventive step and withdrawal of Rejection (B) is respectfully requested.

With respect to rejection (C), this rejection is not tenable for reasons similar to those described for rejection (B). JP '747 was cited for teaching paper cutters, and JP '747 does not cure the deficiencies of Kuroki et al. and Shibata et al. Accordingly, withdrawal of Rejection (C) is respectfully requested.

Priority Documents

Applicants note that this application claims priority to Application No. 2002-218211, filed in Japan and U.S. Provisional Application No. 60/447,243. However, the Examiner has not acknowledged our claim for priority.

Applicants respectfully request acknowledgment of receipt of the certified copy of the instant Japanese priority document and acknowledgment of Applicants' claim to priority to the Provisional Application.

Conclusion

In view of the above-amendments and comments, Applicants respectfully submit that the claims are in condition for allowance. A Notice to such effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq. (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Raymond C. Stewart, #21,066

Garth M. Dahlen, Ph.D., #43,575

RCS/GMD/mua
0071-0528P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Attachment(s): 1) English language abstract for JP 4335060;
2) an English language abstract for JP 7257660; and
3) Supplemental PTO-1449 form